REMARKS

The Final Office Action dated 11 February 2002 has been fully considered. Claims 1, 4, 5, and 7 have been amended. Claim 1 has been amended to substantially include the limitations of claim 3. Claim 3 has been canceled without prejudice to the subject matter thereof. No new matter has been added. Claims 1,2, and 4-7 are pending in this application. Reconsideration of the claims is respectfully requested.

In paragraph 2 on page 2 of the Office Action, claims 1-4 are rejected under 35 U.S.C. §102 (e) as being anticipated by U.S. Patent 6,018,521 issued to Timbs et al (hereinafter Timbs).

The Applicants respectfully traverse the rejection, but have amended the claims to overcome the rejections.

Applicants' claim 1 sets forth, among other features, a broadband cellular network device. The broadband cellular network device comprises a base station control unit (e.g. 1) adapted to control the distribution of asynchronous transfer mode cellular traffic consisting of asynchronous transfer mode cells. The broadband cellular network device further comprises an asynchronous transfer mode controller (e.g. 2), separate from said base station control unit, connected to and being controlled by said base station control unit, and an asynchronous transfer mode switching means (e.g. 3) connected to and being controlled by said asynchronous transfer mode controller and adapted to switch asynchronous transfer mode cellular traffic, said asynchronous transfer mode controller being arranged to provide an interface for converting commands of a first communication protocol (e.g. 2a) issued by the base station

controller unit into commands of a second communication protocol (e.g. 2b) causing switching actions of the asynchronous transfer mode switching means.

In other words, Applicants' claimed invention sets forth at least an ATM controller (e.g. 2) that is separate from BSC unit (e.g. 1) and that accepts a second communication protocol (e.g. 2b ATM switch related layer) causing switching actions to occur within ATM switch (e.g. 3). Furthermore, ATM controller (e.g. 2) accepts commands of a first communication protocol (e.g. 2a GSM related layer) from BSC unit (e.g. 1).

The claimed limitation provides the advantages as set forth on page 5 line 22 to page 6 line 4, in which BSC unit (e.g. 1) does not directly require knowledge of ATM control protocol (e.g. Virtual Path Identifiers and Virtual Connection Identifiers) and may rely on ATM controller (e.g. 2) to convert signalling from the BSC into ATM controller language such that ATM switch (e.g. 3) is responsive to BSC signalling. Such an arrangement facilitates the adaptation of a communications network to allow ATM communications without requiring extensive upgrades to convert BSC (e.g. 1) into an ATM BSC.

Timbs, on the other hand, does not provide a separate ATM controller to control ATM switch 251 of FIG. 1B. Further, Timbs requires that the Call Control Mobility Management 118, which is internal to BSC 220, to provide control to ATM switch 251. Timbs, in contrast to Applicants' claimed invention, requires BSC 220 to have knowledge of ATM switch control protocol, i.e. - ATM Routing Control (ARC) Protocol 113, in order to effect ATM switch 251 control. BSC 220 of Timbs is, therefore, an ATM capable BSC, which provides a single communication protocol to control ATM functions.

Applicants' claimed invention is different from Timbs because Applicants' claimed invention uses a first communication protocol (e.g. 2a GSM related layer) to first communicate with ATM controller (e.g. 2), while a second communication protocol (e.g. 2b ATM switch related layer) is used to effect control of ATM switch (e.g. 3), whereas Timbs uses only a single communication protocol ARC to effect control of ATM switch 251. See page 9 line 28 to page 10 line 7. Applicants submit, therefore, that claim 1 patentably distinguishes over Timbs and is in condition for allowance.

Dependent claims 2 and 4, which are dependent from independent claim 1, are also rejected under 35 U.S.C. §102(e) as being unpatentable over Timbs. While Applicants do not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are now moot in view of the remarks and amendments made in connection with independent claim 1. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited references. Therefore, dependent claims 2 and 4 are also in condition for allowance.

In paragraph 4 on page 3 of the Office Action, claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Timbs, et al. in view of U.S. Patent 5,946,634 issued to Korpela.

The Applicants respectfully traverse the rejection for the following reasons.

The Office Action states that Korpela teaches functional layers such as cellular related upper layer and ATM related lower layer. The Office Action, however, fails to show how Korpela teaches or fairly suggests their use in conjunction with a BSC, an

ATM controller and an ATM switch as set forth in Applicants' claimed invention. In fact, Korpela teaches the use of functional layers in conjunction with a mobile telephone unit.

In order for the combination of Korpela and Timbs to fairly suggest the utilization of two communication protocols, as set forth in Applicants' claimed invention, the combination must first motivate a separation of an ATM controller from a BSC and further must necessitate the requirement to use two communication protocols. No such motivation has been presented by the Office Action. Korpela merely teaches a layered protocol structure that is prevalent in the art and has no bearing on providing a separate ATM switch controller from a BSC.

Further, as discussed above, Timbs fails to teach the limitations as set forth in claim 1 and therefore, the combination of Korpela with Timbs also fails to set forth the limitations of claim 1, as well as dependent claims 5 and 6. Applicants submit that Korpela, in combination with Timbs, fails to teach or fairly suggest Applicants' claimed invention. Applicants further submit, therefore, that claims 5 and 6 patentably distinguish over Korpela, in combination with Timbs and are in condition for allowance.

In paragraph 5 on page 3 of the Office Action, claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Timbs in view of U.S. Patent 5,963,555 issued to Takase et al (hereinafter Takase).

The Applicants respectfully traverse this rejection, but have amended the application to overcome the objections.

Similarly to Korpela, the Office Action has failed to show how Takase in combination with Timbs teaches or fairly suggests Applicants' claimed invention. In particular, the use of GSMP in conjunction with a BSC, an ATM controller separate from

the BSC and an ATM switch as set forth in Applicants' claimed invention. Takase merely teaches the use of ATM in cooperation with a LAN to perform traffic control.

Further, Applicants submit that the Office Action has failed to show that Timbs contains the elements of Applicants' claim 1 as discussed above. Timbs, in combination with Takase, therefore, also fails to provide the limitations as set forth in Applicants' claim 7. Applicants submit, therefore, that claim 7 patentably distinguishes over Timbs in combination with Takase and is in condition for allowance.

CONCLUSION

In view of the amendments and reasons provided above, it is believed that all pending claims are in condition for allowance. The amendments clarify the patentable invention without adding new subject matter. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Agent for Applicants, Michael T. Wallace, at (952) 253-4127.

Respectfully submitted,

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Appendix A
Marked Up Version of the Entire Claim Set

1. (Twice Amended) A broadband cellular network device, comprising:

a base station control unit adapted to control the distribution of asynchronous transfer mode cellular traffic consisting of asynchronous transfer mode cells,

an asynchronous transfer mode controller, separate from said base station control unit, connected to and being controlled by said base station control unit, and

an asynchronous transfer mode switching means connected to and being controlled by said asynchronous transfer mode controller and adapted to switch asynchronous transfer mode cellular traffic, said asynchronous transfer mode controller being arranged to provide an interface for converting commands of a first communication protocol issued by the base station controller unit into commands of a second communication protocol causing switching actions of the asynchronous transfer mode switching means.

2. (Unchanged) A device according to claim 1, wherein said base station control unit provides either of a software, hardware or mixed software/hardware implementation of base station controller functions and comprises an asynchronous transfer mode controller instruction means adapted to instruct the asynchronous transfer mode controller.

4. (Twice Amended) A device according to claim [3] 1, wherein the asynchronous transfer mode controller is adapted to employ asynchronous transfer mode based signalling and to provide control commands for controlling connecting hardware of the asynchronous transfer mode switching means.

5. (Thrice Amended) Device according to claim [3] 1, wherein the asynchronous transfer mode controller is arranged to comprise at least two functional layers, one of the functional layers being a cellular network related upper layer adapted to perform cellular network related functions, and one of the functional layers being an asynchronous transfer mode related lower layer adapted to perform asynchronous transfer mode switching means related functions.

6. (Unchanged) Device according to claim 5, wherein the lower functional layer of the asynchronous transfer mode controller is arranged to control the switching hardware of the asynchronous transfer mode switching means.

7. (Twice Amended) Device according to claim [3] 1, wherein the asynchronous transfer mode controller is adapted to be a General Switch Management Protocol (GSMP) controller, and wherein the asynchronous transfer mode switching means is adapted to support said General Switch Management Protocol.